

ABSTRACT

A method for treating cardiac failure such as congestive heart failure by application of hypothermia. Hypothermia may be applied by endovascular cooling using a heat exchange catheter circulating heat exchange fluid between an external heat exchanger controlled using temperature feedback from a temperature probe on or in the patient to cool the heart to a sufficiently low temperature for a sufficient length of time to increase cardiac output and improve the vascular condition of the patient. The patient may be maintained in the hypothermic condition for a period of time and is then re-warmed slowly and controllably. The endovascular temperature management may be controlled automatically in response to a temperature probe on the patient, and shivering while the patient is cool may be combated using surface warming and anti-shivering drugs. The method is applicable to treat congestive heart failure and may be used repeatedly on the same patient to restore that patient to adequate heart function when the vascular condition of that patient has become unacceptable. The method may be used to maintain a patient until a heart transplant becomes available. The method may be used to stabilize a patient's condition to allow needed surgery or intervention. The method may be used in conjunction with other treatments including drugs, balloon pumps, pacing devices and ventricular assist devices.